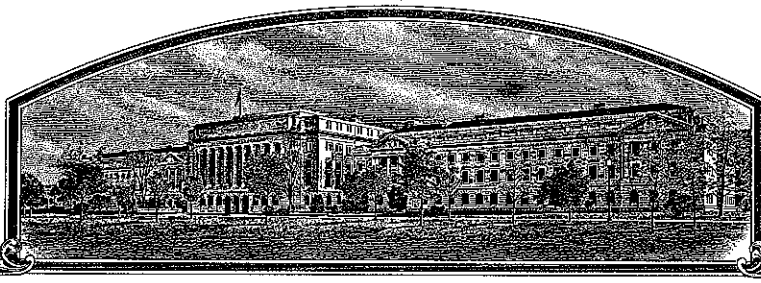


No.

200500293



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

NASH Research Foundation

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.


NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IN THE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMERICAL GENERATIONS SPECIFIED BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

BEAN, FIELD

'Eclipse'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this nineteenth day of September, in the year two thousand and five.

Attest:


Commissioner
Plant Variety Protection Office
Agricultural Marketing Service


Secretary of Agriculture



U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER NDSU Research Foundation		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME ND9902621-2		3. VARIETY NAME 'Eclipse'	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) C/O Executive Director 1735 NDSU Research Park Drive PO Box 5002 Fargo, ND 58105-5002		5. TELEPHONE (include area code) 701-231-8931		<div style="border: 1px solid black; padding: 5px;"> FOR OFFICIAL USE ONLY PVPO NUMBER <div style="font-size: 1.5em; font-weight: bold;">200500293</div> FILING DATE <div style="font-size: 1.5em; font-weight: bold;">JULY 13, 2005</div> </div>	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) NDSU Research Foundation 501(c)(3) Corp.		6. FAX (include area code) 701-231-6661			
8. IF INCORPORATED, GIVE STATE OF INCORPORATION NDSU Research Foundation 501(c)(3) Corp.		9. DATE OF INCORPORATION May 1, 1989		<div style="border: 1px solid black; padding: 5px;"> FILING AND EXAMINATION FEES: \$ 3,652.00 DATE 7/13/05 CERTIFICATION FEE: \$ 682.00 DATE 8/18/2005 </div>	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) Ken Grafton 315 Morrill Hall NDSU Fargo, ND 58105		Dale Zetocha NDSU Research Foundation 1735 NDSU Research Park Drive PO Box 5002 Fargo, ND 58105-5002			
11. TELEPHONE (include area code) 701-231-6693		12. FAX (include area code) 701-231-8520		13. E-MAIL k.grafton@ndsu.edu dale.zetocha@ndsu.edu	
14. CROP KIND (Common Name) Black Bean		16. FAMILY NAME (Botanical) Leguminosae		18. DOES THE VARIETY CONTAIN ANY TRANSGENES? (OPTIONAL) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERCIALIZATION.	
15. GENUS AND SPECIES NAME OF CROP Phaseolus vulgaris		17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? (See Section 83(a) of the Plant Variety Protection Act) <input checked="" type="checkbox"/> YES (If "yes", answer items 21 and 22 below) <input type="checkbox"/> NO (If "no", go to item 23)	
19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse) a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety d. <input type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional) e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository) g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, WHICH CLASSES? <input checked="" type="checkbox"/> FOUNDATION <input checked="" type="checkbox"/> REGISTERED <input checked="" type="checkbox"/> CERTIFIED 22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED <i>(If additional explanation is necessary, please use the space indicated on the reverse.)</i>		23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. <i>(Please use space indicated on reverse.)</i>	
24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. <i>(Please use space indicated on reverse.)</i>		25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate. The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act. Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.			

SIGNATURE OF OWNER

SIGNATURE OF OWNER

NAME (Please print or type)

NAME (Please print or type)

Dale Zetocha

CAPACITY OR TITLE

DATE

CAPACITY OR TITLE

DATE

Executive Director

7/12/05

(See reverse for instructions and information collection burden statement)

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable (*in the sense that it will reproduce an entire plant*) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$3,652 (\$432 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. **Retain one copy for your files.** All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvpindex.htm>

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 <http://www.ams.usda.gov/lsg/seed.htm>.

ITEM

- 19a. Give:
- (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
 - (2) the details of subsequent stages of selection and multiplication;
 - (3) evidence of uniformity and stability; and
 - (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
 - (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
 - (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
20. If "Yes" is specified (*seed of this variety be sold by variety name only, as a class of certified seed*), the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
23. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
24. See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.

22. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

Released as a variety October 7, 2004. 'Eclipse' was first evaluated under a material transfer agreement in Canada, dated April 12, 2005. No seed sales were authorized. Foundation seed was distributed to licensed growers in the U.S. beginning in the spring of 2005.

23. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

24. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 1.4 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Exhibit A: Eclipse Black Bean

The North Dakota Agricultural Experiment Station developed and released the black bean cultivar, Eclipse, in 2004. Eclipse, tested as ND9902621-02, is a selection from the cross: 'Tacaragua' / 'Nighthawk' // 'Navigator'. Tacaragua is a black bean landrace from Mexico and Nighthawk is a cultivar from University of Saskatchewan, Canada. Navigator is a navy bean cultivar developed by Rogers Seed Co. (a subsidiary of Syngenta, Inc.). Tacaragua was used as a parent because of its purported tolerance to white mold, and Nighthawk is an early maturing cultivar. Navigator has excellent plant architecture and disease resistance. This hybridization series was made in an attempt to combine tolerance to white mold with early maturity and erect architecture. The final cross was made in the fall 1996 greenhouse and the F_1 population (97-255) was grown in the field near Erie, ND, in 1997.

The F_2 population was grown in the field near Hatton ND in 1998. Single plant selections were made in the F_2 generation; line 97-255-05 was selected because of its pod load, plant vigor, early maturity, and lack of foliar diseases. The $F_{2:3}$ line (97-255-05) was entered into an off-season nursery near Isabela, PR during the winter of 1998-99. Line -05 was selected as an $F_{2:3}$ row for vigor, productivity, lack of visible foliar pathogens, and maturity at the winter nursery site. The row was harvested in bulk and $F_{2:4}$ seed was planted at three ND sites (Erie, Hatton, and Johnstown) in a row arrangement in 1999. Based on visual appearance for yield potential (pod load), maturity, plant growth habit, and disease symptoms at these three locations, single plant selections were made in the row at Hatton. Line ND 9902621 was then grown as an $F_{4:5}$ line in an off-season nursery near Isabela, PR. Simultaneous evaluation for reaction to BCMV and race 53 and indigenous races of bean rust (causal organism, *Uromyces appendiculatus* (Pers.: Pers.) Unger) present in North Dakota was made in the greenhouse in Fargo, ND. Selection of this row was based on visual performance and apparent lack of disease pressure. Selection -02 was bulk harvested in PR as an $F_{4:6}$ and entered into Preliminary Yield Tests in ND in 2000, and in Advanced Yield Tests in 2001. In 2001-02, seed from 100 plants ($F_{4:7}$) were evaluated in the greenhouse for reaction to bcmv and rust. Lines exhibiting uniform reaction to these diseases were selected, and remnant seed of 70 $F_{4:7}$ were grown near Hatton, ND in 2002 and evaluated for uniform appearance. Uniform rows were identified and 200 plants from 30 rows were selected. Harvested $F_{4:8}$ seed was bulked to form breeder seed. Seed from this bulked lot was planted in a greenhouse ($F_{4:9}$) to obtain disease-free seed, then grown in an off-season nursery (2003-04) near Blenheim, New Zealand. In 2004, $F_{4:10}$ seed was grown near Prosser, WA and near Kimberly, ID as the initial seed increase of Foundation seed. During this testing phase, ND 9902621-02 was uniform for obvious phenotypic traits, including rust resistance, bcmv resistance, growth habit, and maturity.

Eclipse is an early maturing, high yielding black bean with typical ovoid seed with a dull (opaque) black seed coat, similar to standard commercially acceptable cultivars such as 'T-39', and 'Jaguar'. This is the preferred seed coat in the black bean market class. Eclipse has purple flowers, glossy green leaves, is erect (Type II upright, short vine), with excellent lodging resistance, and exhibits very good synchronous plant drydown at harvest (both plant and pods mature concurrently). This line is homozygous for the dominant *I* allele, which confers resistance to bean common mosaic virus, but is susceptible to bean common mosaic necrosis virus (bcmnv), expressing the typical top necrosis ("blackroot") reaction when challenged with this virus. Eclipse is homozygous dominant at the *Ur-3* locus and exhibits a necrotic reaction typical of the reaction conferred by the dominant resistance allele when challenged with race 53; this dominant allele confers resistance to all indigenous races of rust in North Dakota.

Since initially selected, the cultivar Eclipse is uniform and stable within commercially acceptable limits and breeds true to type. Eclipse is maintained through pure-line selection and has been monitored for six generations. During this time, Eclipse has been uniform and stable, with no variants observed.

Eclipse can be easily distinguished from the black bean cultivar Condor because of its rust resistance. Eclipse, because it is homozygous dominant at the *Ur-3* locus, is resistant to race 53, while Condor is susceptible to that race of rust. Similarly, Eclipse can be easily distinguished from the black bean cultivar Jaguar, because Jaguar carries the dominant *Co-2* allele and is resistant to race 73 of bean anthracnose (causal organism, *Colletotrichum lindemuthianum*), while Eclipse is homozygous recessive at this locus (*co-2*) and susceptible to that race of anthracnose.

Table 1. Comparison of Eclipse with commercial check cultivars for disease reactions summarized from several tests in ND.

Trait	Eclipse	Condor	Jaguar
Rust (race 53)	R	S	R
BCMV	R	R	R
Anthracnose (73)	S	R	R

Exhibit B: Eclipse black bean

The North Dakota Agricultural Experiment Station believes 'Eclipse' is a unique black bean cultivar that originated from the cross 'Tacaragua' / 'Nighthawk' // 'Navigator'. Eclipse is a black bean with purple flowers, glossy green leaves, opaque ovoid seed typical of the black bean market class, excellent plant structure (CIAT Type II), good yield potential, and excellent plant drydown at maturity.

Eclipse is most similar to the black bean cultivar Jaguar. Both Eclipse and Jaguar are similar in maturity, flower color, and seed and architectural traits. Eclipse and Jaguar can be differentiated by the following criterion: evaluating disease reaction when challenged with race 73 of bean anthracnose. The disease reactions are visibly distinct and obvious - Eclipse is susceptible to race 73 while Jaguar is resistant to that race due to the dominant Co-2 allele. Also, Eclipse can be easily differentiated from the black bean cultivar Condor by evaluating reaction to bean rust race 53 - Eclipse is homozygous dominant at the *Ur-3* locus while Condor is homozygous recessive at that locus. This can be differentiated by challenging both cultivars with race 53. Eclipse will exhibit a resistant reaction (small necrotic flecks) while Condor will exhibit large pustule development. Eclipse is resistant to the prevalent races of rust, (*Uromyces appendiculatus* var. *appendiculatus*) found in North Dakota by being homozygous dominant at the *Ur-3* locus.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY
Field Bean (*Phaseolus vulgaris* L.)

NAME OF APPLICANT (S) NDSU Research Foundation N.D. Agricultural Exp. Station	TEMPORARY OR EXPERIMENTAL DESIGNATION ND9902621-2	VARIETY NAME Eclipse
ADDRESS (Street and No. or RD No., City, State, Zip Code, and Country) NDSU Research Foundation P.O. Box 5041 Fargo, ND 58105-5041		FOR OFFICIAL USE ONLY PVPO NUMBER 200500293

PLEASE READ ALL INSTRUCTIONS CAREFULLY:

Provide data for all characters unless indicated as "optional". Place numbers in the boxes for the characters or numerical values that best describe this variety. Measured data should be the mean of an appropriate number of well spaced (15-20 cm) plants. The Royal Horticultural Society or any recognized color standard may be used to determine plant color. Designate the color system used below.

COLOR SYSTEM USED: Royal Horticultural Society	LOCATION OF THE TEST(S) TO EVALUATE THIS VARIETY: North Dakota (Hatton)																																															
1. MARKET CLASS: <table border="1"> <tr> <td>3</td> <td>CLASS</td> <td>CHECK</td> </tr> <tr> <td></td> <td>1 = Navy (Pea)</td> <td>Seafarer</td> </tr> <tr> <td></td> <td>2 = Small White</td> <td>Aurora</td> </tr> <tr> <td></td> <td>3 = Black</td> <td>Midnight</td> </tr> <tr> <td></td> <td>4 = Pinto</td> <td>UI-114</td> </tr> <tr> <td></td> <td>5 = Great Northern</td> <td>UI-59</td> </tr> <tr> <td></td> <td>6 = Small Red</td> <td>NW-59</td> </tr> <tr> <td></td> <td>7 = Pink</td> <td>Viva</td> </tr> <tr> <td></td> <td>8 = Cranberry</td> <td>UI-50</td> </tr> <tr> <td></td> <td>9 = Dark Red Kidney</td> <td>Montclair</td> </tr> <tr> <td></td> <td>10 = Light Red Kidney</td> <td>Redcloud</td> </tr> <tr> <td></td> <td>11 = Yellow Eye</td> <td>Steuben</td> </tr> <tr> <td></td> <td>12 = Other (Specify _____)</td> <td></td> </tr> </table>	3	CLASS	CHECK		1 = Navy (Pea)	Seafarer		2 = Small White	Aurora		3 = Black	Midnight		4 = Pinto	UI-114		5 = Great Northern	UI-59		6 = Small Red	NW-59		7 = Pink	Viva		8 = Cranberry	UI-50		9 = Dark Red Kidney	Montclair		10 = Light Red Kidney	Redcloud		11 = Yellow Eye	Steuben		12 = Other (Specify _____)		2 = MATURITY: <table border="1"> <tr> <td>2</td> <td>1 = Early (80-90 days) 2 = Medium (90-100 Days) 3 = Late (> 100 Days)</td> </tr> <tr> <td>9 5</td> <td>Days from Planting to Harvest Maturity</td> </tr> <tr> <td></td> <td>Heat Units from Planting to Harvest Maturity (Optional). Specify Base Temperature Used: _____</td> </tr> <tr> <td>1 0 5</td> <td>Days from Planting to Harvest Maturity of Check Variety (Use Check Appropriate to Market Class Shown in Item 1)</td> </tr> </table>	2	1 = Early (80-90 days) 2 = Medium (90-100 Days) 3 = Late (> 100 Days)	9 5	Days from Planting to Harvest Maturity		Heat Units from Planting to Harvest Maturity (Optional). Specify Base Temperature Used: _____	1 0 5	Days from Planting to Harvest Maturity of Check Variety (Use Check Appropriate to Market Class Shown in Item 1)
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3. PLANT HABIT: 3

TYPE

- 1 = Ia Bush-determinate, Strong and Erect Stem and Branches
2 = Ib Bush-determinate, Weak Stem and Branches
3 = IIa Erect Growth Habit-indeterminate, Guides (Runners) short or not developed
4 = IIb Erect Growth Habit-indeterminate, Guides Medium to Long, with no Ability to Climb
5 = IIIa Vine-indeterminate, Short Guides with no ability to Climb
6 = IIIb Vine-indeterminate, Long Guides with Ability to Climb
7 = IVa Indeterminate Climbing, Pods Distributed Throughout the Plant
8 = IVb Indeterminate Climbing, Pods Concentrated on the Upper Part of the Plant

6 2	Average Height of Mature Plant, in cm.
6 5	Average Height of Check Variety, in cm. (Use Same Check as Above)
3	Pod Position: 1 = Low (Lower Pods Touching Soil Surface) 2 = High (Lower Pods not Touching Soil Surface) 3 = Scattered (Not Concentrated High or Low)
1	Adaptability to Machine Harvest: 1 = Adapted 2 = Not Adapted
1	Lodging Resistance: 1 = Good 2 = Fair 3 = Poor

4. LEAFLET MORPHOLOGY: (Use terminal Leaflet of a Fully Expanded Trifoliolate)200500293
4 = Variable

1 = Smooth 2 = Wrinkled 1 = Dull 2 = Glossy 3 = Semiglossy

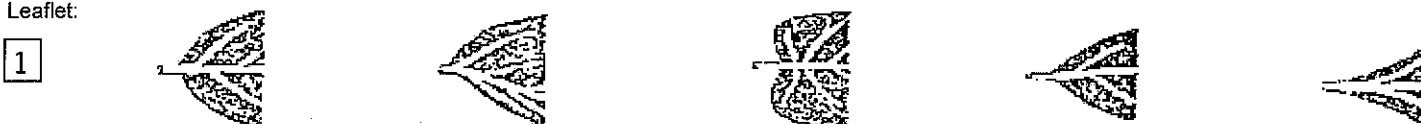
Shape: 1 = Ovate 2 = Lanceolate 3 = Deltoid 4 = Cordate 5 = Rhomboid



Apex of Leaflet: 1 = Acute 2 = Acuminate 3 = Cuspidate 4 = Obtuse



Base of Leaflet: 1 = Obtuse 2 = Oblique 3 = Cordate 4 = Cuneate 5 = Attenuate

**5. FLOWER COLOR AND DAYS TO BLOOM:**

5 Color of Standard: 1 = White 2 = Cream 3 = Pink 5 Color of Keel: 1 = White 2 = Cream 3 = Pink
4 = Blue 5 = Purple 4 = Blue 5 = Purple

5 Color of Wings: 1 = White 2 = Cream 3 = Pink 4, 5 Days to 50% Bloom
4 = Blue 5 = Purple

6. POD MORPHOLOGY: (Green Pod Morphology Optional)

Green Mature

1 1 Color Pattern: 1 = Solid 2 = Striped 3 = Blotched 4 = Mottled 5 = Other _____

3 5 Primary Color: 1 = Purple 2 = Red 3 = Green 4 = Yellow 5 = Tan 6 = Brown 7 = Other _____

1 1 Color Modifier: 1 = Light 2 = Light Medium 3 = Medium 4 = Medium Dark 5 = Dark

1 1 Secondary Color: 1 = Purple 2 = Red 3 = Green 4 = Yellow 5 = Tan 6 = Brown 7 = Other _____

2 2 Cross Section Shape: 1 = Flat 2 = Pear 3 = Round 4 = Figure Eight



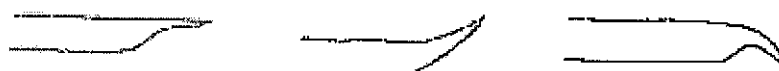
2 2 Pod Curvature 1 = Straight 2 = Slightly Curved



3 = Curved 4 = Recurved



1 1 Pod Beak Orientation: 1 = Straight 2 = Curved Upward 3 = Curved Downward



4 = Variable
Average Beak Length,
in cm. 0.2

1 1 Constrictions: 1 = None 2 = Slight 3 = Deep

5 9 Average Number of Seeds per Pod

7. SEED COLOR:

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☐ 2 1 = Shiny 2 = Dull 3 = Semi-shiny 4 = Variable ☐ 1 1 = Monochrome 2 = Polychrome


☐ 1 0 Primary Color: 1 = White 2 = Yellow 3 = Buff 4 = Tan ☐ 1 0 Secondary Color: 1 = White 2 = Yellow 3 = Buff 4 = Tan
 5 = Brown 6 = Pink 7 = Red 8 = Purple 5 = Brown 6 = Pink 7 = Red 8 = Purple
 9 = Blue 10 = Black 11 = Other 9 = Blue 10 = Black 11 = Other

☐ 1 Color Pattern: 1 = Solid 2 = Splashed 3 = Mottled ☐ 1 Hilar Ring: 1 = Absent 2 = Present
 4 = Striped 5 = Flecked 6 = Dotted

☐ 1 0 Hilar Ring Color: 1 = White 2 = Yellow 3 = Buff 4 = Tan 5 = Brown 6 = Pink 7 = Red
 8 = Purple 9 = Blue 10 = Black 11 = Other

8. SEED SHAPE AND WEIGHT:

☐ 2 Shape of Seed Taken From Middle of Pod: 1 = Round 2 = Oval 3 = Cuboid 4 = Kidney 5 = Truncate Fastigate



☐ 2 0 Dry Seed Weight in g/100g Seeds (Adjusted to 12% Moisture)

9. ANTHOCYANIN PIGMENTATION:

☐ 2 Flowers ☐ 2 Stems ☐ 2 Pods ☐ 2 Seeds
 1 = Absent 2 = Present ☐ 1 Leaves ☐ 1 Petioles ☐ 2 Peduncles ☐ 2 Nodes

10. KNOWN DISEASE REACTION:

DISEASES – COMMON NAME: Anthracnose, Rust, Powdery Mildew, Fusarium Root Rot, Pythium Root Rot, Rhizoctonia Root Rot, Pythium Wilt, Sclerotinia White Mold, angular Leaf Spot, Bacterial Wilt, Halo Blight, Fuscous Blight, Common Bacterial Blight, Red Node Virus, Pod Mottle Virus, Bean Common Mosaic Virus, Bean Yellow Mosaic Virus, Curly Top Virus, Bacterial Brown Spot, Bean Southern Mosaic Virus, Other (Specify) _____

Reaction: 1 = Susceptible 2 = Resistant 3 = Tolerant 4 = Avoidance

(Give the Common Name (CN), Scientific Name (SN), and Race(s), Where Applicable)

☐ 2 Disease: CN RUST ; SN Uromyces appendiculatus ; Race(s) 82-84 89-92,95,99 40-42 52-57 59-61,76,79 ;

☐ 1 Disease: CN ANTHRACNOSE ; SN Colletotricum lindemuthianum ; Race(s) 73 ;

☐ 1 Disease: CN COMMON BLIGHT ; SN Xanthomonas campestris pv. phaseoli ; Race(s) N/A ;

☐ 2 Disease: CN BEAN COMMON MOSAIC VIRUS ; SN Same ; Race(s) A11 (I-Gene) ;

☐ 1 Disease: CN BEAN COMMON MOSAIC NECROSIS VIRUS ; SN Same ; Race(s) A11 ;

☐ Disease: CN _____ ; SN _____ ; Race(s) _____ ;

11. KNOWN INSECT/NEMATODE RESISTANCE:

PESTS – COMMON NAME: Aphids, Bean Pod Weevil, Bruchid Beetle, Corn Earworm, Flea Beetle, Leaf Hopper, Lesion Nematode, Lygus, Mexican Bean Beetle, Root Knot Nematode, Corn Seed Maggot, Spider Mites, Thrips, Weevils, Western Bean Cutworm, Other (Specify) _____

Reaction: 1 = Susceptible 2 = Resistant 3 = Tolerant 4 = Avoidance

(Give the Common Name (CN), Scientific Name (SN), and Race(s), Where Applicable)

☐ Pest: CN _____ ; SN _____ ; Race(s) _____ ;

☐ Pest: CN _____ ; SN _____ ; Race(s) _____ ;

☐ Pest: CN _____ ; SN _____ ; Race(s) _____ ;

12. KNOWN PHYSIOLOGICAL STRESS REACTION:

1 = Susceptible 2 = Resistant ☐ 3 Heat ☐ 1 Cold ☐ 1 Drought ☐ 2 Air Pollution
 3 = Tolerant 4 = Avoidance

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13. COMMENTS:

Eclipse is homozygous dominant at the Ur-3 locus, conferring resistance to a number of races of Uromyces appendiculatus. Eclipse is homozygous dominant at the "I" locus, conferring resistance to all strains of BCMV, but expresses typical "blackroot" top necrosis reaction when challenged with strains of BCMNV.

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

**EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP**

1. NAME OF APPLICANT(S) NDSU Research Foundation	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER ND9902621-2	3. VARIETY NAME 'Eclipse'
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) C/O Executive Director 1735 NDSU Research Park Drive PO Box 5002 Fargo, ND 58105-5002	5. TELEPHONE (Include area code) (701) 231-8931	6. FAX (Include area code) (701) 231-6661
	7. PVPO NUMBER 200500293	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. national or a U.S. based company? If no, give name of country. ☒ YES ☐ NO10. Is the applicant the original owner? ☐ YES ☒ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☒ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

See additional Exhibit E Statement on the Basis of the Applicant's ownership included in this Application.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Exhibit E – Statement of the Basis of the Applicant's Ownership

Dr. Kenneth F. Grafton, an employee of the North Dakota Agricultural Experiment Station and North Dakota State University, is the plant breeder of record who developed 'Eclipse' black bean for which Plant Variety Protection is hereby sought. The employee, by agreement and because of the condition of the use of facilities and funds of the North Dakota Agricultural Experiment Station and North Dakota State University, has assigned all ownership rights to 'Eclipse' black bean to the North Dakota Agricultural Experiment Station and North Dakota State University.

North Dakota State University, on behalf of the North Dakota Agricultural Experiment Station, has assigned all ownership to the NDSU Research Foundation. The NDSU Research Foundation is a nonprofit corporation set up to own and manage the intellectual property of North Dakota State University.